



EPA

SUPERFUND *EMERGENCY* RESPONSE *PROGRAM*

United States Environmental Protection Agency Region 9

Volume 2

November 1997

New River Update

Eighteen Commonly Asked Questions About the Removal Action

Phoenix, AZ - Some New River residents have questions and concerns about the proposed incineration of explosives and chemicals at the former Byers' munitions facility. In this update we will answer the most commonly asked questions about the proposed incineration plan and why it was chosen as the safest method of disposal.

1) What is the current status of the proposed incineration?

Currently the Department of Defense (DOD) is reviewing the site to see if they can provide an alternative to incineration. We are waiting for the DOD report before any plans are finalized. Also, proposals to have other qualified expert(s) examine the shed are being considered. Since there are numerous questions about the effects of incineration, we are addressing those in this update.

2) What chemicals are in the shed and in what quantities?

A partial inventory of the contents of the shed has been completed and released to the public. Inspections revealed small quantities of over 100 different chemicals used in the manufacture of explosives and propellants. Most of these chemicals, stored in cans, jars, vials, film canisters and boxes, are in the ½ pint to quart range, with a few in gallon jars and 3 lb. coffee cans. Detonators, explosives, and fuse igniters were also found. It was not possible to view all of the contents of the shed because deteriorated

explosive materials block access to some containers and other materials. The quantity of unknown materials in the shed equals about one 55-gallon drum.

3) Can we see the list of chemicals?

For a list of chemicals and sensitive explosives in the shed contact the New River Hotline at 602-256-1010, selections 1, 3 or 4.

4) Why can't the chemicals be moved?

EPA has already recovered the equivalent of twenty 55-gallon drums from other buildings on site. In the shed, however, deteriorated explosives are stored near chemicals, making both too hazardous to move. Various explosives experts have examined the shed and have unanimously determined that the chemicals and deteriorated explosives are stored in such a haphazard and dangerous condition that any attempt to remove them could result in an unplanned fire. Chemicals are stored next to each other that should not be, some containers are rusted, some have crystals growing out of them, and many of the chemicals and explosives are extremely deteriorated.

5) *If these chemicals are so unstable, how did they survive the September explosion?*

The September explosion did not adversely affect the contents of the shed. The explosions that were detonated in the two magazines onsite produced blast effects that did not reach the shed. The shed was protected from direct blast effects due to its location. That, plus the contours of the land, allowed the pressure wave created by the explosion to be of no risk or danger to the shed or its contents.

6) *Why can't we use robots to remove the chemicals?*

Using a robot in the confines of the shed would be dangerous. There is not enough room to safely maneuver a robot inside the building and, if even one container of the wrong material, such as lead azide, were to be knocked over, the entire facility could burn or possibly explode.

7) *Why can't we use a containment vehicle to remove the materials?*

We would still need to move the chemicals and deteriorated explosives from the facility and place them in the vehicle. Explosives technicians have advised us that the mere action of moving a deteriorated container is extremely hazardous and capable of causing a fire or explosion while enforcement personnel are inside the facility.

8) *Since the site appears safe right now, why do we have to remove the chemicals at all?*

The chemicals and sensitive explosives on site pose a serious threat to the residents of New River. The threat will only worsen as the materials continue to degrade and become more unstable. The storage facility is not adequate, the materials are not stored safely and the site cannot be left in its present condition. The site is vulnerable to vandalism, which could result in an uncontrolled, unmonitored fire and/or sudden explosion. To date, all of the explosive experts who have examined the shed have stated that the materials cannot be safely removed.

9) *Won't burning the chemicals allow them to blend and form a toxic cloud?*

No. The proposed incineration method would create a fire with a temperature between 3000 and 5000 degrees. Under such high temperatures, the organic chemicals would be effectively destroyed within the first two minutes. Because the fire would burn so hot, chemical emissions would be minimal. Most of the emissions from the incineration would come from the burning of the asphalt-roofed wooden shed itself.

Although it is theoretically possible that new substances may form during incineration, new chemicals are not commonly produced by incineration. Any substance created during incineration would be in small and ephemeral quantities, and would be consumed by the same fire that created them. By-products from the incineration would be primarily nitrates, sulfates, and phosphates – elements found in commercial fertilizer.

While organic chemicals would be effectively and immediately destroyed by incineration, inorganics, e.g., metals, would not. Please see the next question for a discussion of metals.

10) *We have heard that the building contains lead, mercury, and uranium. What will happen to these materials in the fire?*

Small amounts of several metals were found in the shed: iron, lead, mercury, silver, antimony, strontium, magnesium and aluminum (no uranium). Although quantities are small – about one pound of mercury, one quart jar of strontium nitrate, one quart can of strontium peroxide, small amounts of lead – for modeling purposes, EPA used 500 pound quantities of each metal. Even under this worst case scenario (500 lbs. vs. 1 lb.) the metal emissions would stay well below a level of concern, even within the immediate burn site.

EPA will set up air monitoring stations to monitor emissions during the fire. Three EPA teams will be in the evacuation area during the incineration to collect real time data on air emissions. The vast majority of

the emissions will come from the burning of the wood, asphalt roofing, and shelving in the structure as the fire cools.

11) *How can you be sure the incineration is safe, given that there are unknown chemicals in the shed?*

For modeling purposes, EPA developed a worst-case scenario based on a 500-pound quantity of acutely toxic pesticides. It is unlikely that the unknown substances are pesticides since they are not used in the manufacture of explosives, and there aren't 500 pounds of any one substance in the shed; nevertheless, the incineration design uses this assumption as the model for the unknown chemicals in order to calculate maximum protection.

12) *What would we be coming back to if the incineration takes place?*

We don't expect any damage or contamination to surrounding properties. The incineration has been designed to minimize any impacts to property. A large containment berm has been constructed to restrict debris from the burning of the building. We anticipate combustion by-products from the building and its contents will pose no environmental threat outside the immediate burn area. Soil and air sampling will enable us to track what was released during the incineration. If post-incineration sampling shows areas that need further action, EPA will take care of any clean up.

13) *What if the fire burns out of control?*

There will be standing support from the Daisy Mountain Fire Department. The Phoenix Fire Department will provide additional assistance, if needed.

14) *Why would the evacuation radius be changed?*

The original evacuation radius was extremely conservative because there was little time to define the evacuation zone when the incineration was planned for October 18. With the incineration postponed indefinitely, EPA called its Environmental Response

Team to review the evacuation zone and air monitoring plan firsthand. With additional time for study, EPA has been able to more thoroughly review the geography and meteorology of the area, as well as the incineration plan and contents of the shed, to determine a more realistic, smaller evacuation area.

By evacuating the area to protect people from the temporal emissions from the fire, by designing an effective incineration system, by sampling the air and soil before and after the incineration, and by cleaning up any contamination near the burn site if it occurs, we believe we can prevent any health impacts to New River residents.

15) *Could pollutants from the fire travel beyond the evacuation radius?*

EPA and the Arizona Department of Environmental Quality have studied meteorology in the area to determine how emissions from the fire would travel. We do not expect emissions from the fire to have a significant impact beyond the former munitions facility, let alone outside the evacuation area.

An incineration method has been designed that will bring the temperature of the incineration to between 3000 and 5000 degrees almost instantaneously. Commercial hazardous waste incinerators operate at temperatures of approximately 2000 degrees. The higher the temperature, the cleaner materials burn. The incineration of the materials is expected to produce an insignificant amount of pollutants. Under such high temperatures the by-products from the explosive materials and propellants will primarily be nitrates, sulfates and phosphates. There will also be a small amount of metals and acid gas released in the first few minutes of the fire, but it has been determined that these materials are not present in large enough quantities to make these emissions significant. The vast majority of the emissions will come from the burning of the wood, asphalt roofing, and shelving in the structure as the fire cools.

16) *What about the effects on wildlife, like deer and quail? What about future exposure to wildlife?*

According to the Arizona Game and Fish Department, there will be no effects on wildlife, nor will the incineration cause any future harm to wildlife. We will be monitoring the air before, during and after the incineration to measure and track the emissions. Already we have collected soil samples and will resample after the fire is completely out to ensure that no contamination has occurred.

17) *The New River community relies on wells for their drinking water. Will the incineration harm groundwater?*

EPA is certain that the proposed incineration would not contaminate groundwater. The shed does not contain the kinds of materials that contaminate groundwater, such as fuels, solvents and pesticides. Nor is incineration associated with groundwater contamination. In any case, under such high temperatures, between 3000 and 5000 degrees, the organic materials in the shed will effectively be destroyed within the first two minutes of the incin-

eration. Combustion by-products from the incineration of the shed and its contents will be essentially identical to any structural fire. By-products will not cause any groundwater contamination because they will dissipate like smoke. Small amounts of metals and other inorganic materials will be released in the first few minutes of the fire, but no materials are present in large enough quantities to make these emissions significant.

The materials, such as thermite, that will be used to raise the fire temperature to achieve a cleaner burn, do not burn through soil and do not pose any threat to groundwater.

EPA will be sampling soil in the burn area after the incineration to determine whether any soil removal will be necessary.

18) *If the by-products of the incineration are so innocuous, why evacuate the area?*

The evacuation plan is an extra precaution that adds an additional layer of protection for nearby residents.

New River Hotline: 602-256-1010



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